

### **AMENDMENTS TO THE CLAIMS**

1. (Original) In a centrifugal extractor of construction in which a rotor housed in a rotor housing is rotatably journaled in a state of being suspended by a main shaft extended upwardly, said main shaft is rotated and driven by a motor to thereby rotate the rotor, an aqueous phase and an organic phase supplied to the outer circumference of the rotor are mixed between the rotor housing and the rotor, a mixed phase is sucked into the rotor and is separated into two phases in a centrifugal force field internally of the rotor, and the separated phases are discharged, a centrifugal extractor of non-contact journaled construction characterized in that

the outside of said main shaft is surrounded air-tightly by a drive-portion housing coupled to said rotor housing, the main shaft has a thrust magnetic disk on the upper end thereof and has at least one radial magnetic cylinder and a motor-rotor portion in the circumference thereof, thrust bearing electromagnets are incorporated up and down so as to hold the thrust magnetic disk therebetween into the inner surface of the drive-portion housing and covered by non-magnetic anticorrosive protective plates, at least one radial bearing electromagnet and a motor-stator portion are incorporated into the inner surface of the drive-portion housing opposite the at least one radial magnetic cylinder and the motor-rotor portion, respectively, and covered by a non-magnetic anticorrosive protective pipe, the motor-rotor portion is also covered by a non-magnetic anticorrosive protective can, and touch-down bearings are disposed in the vicinity of the upper end and in the vicinity of the lower end, respectively, of the main shaft.

2. (Original) The centrifugal extractor of non-contact journaled construction according to claim 1, wherein the touch-down bearings are slide bearings formed of fluorocarbon resin, which are disposed on the inner walls of the drive-portion housing in the vicinity of the upper end of the main shaft and in the vicinity of the upper end of the rotor, respectively.

3. (Currently Amended) The centrifugal extractor of non-contact journaled construction according to claim 1 ~~or 2~~, wherein the drive-portion housing comprises a combination of a cylindrical member having flanges on both upper and lower ends thereof and a disk-like member for

blocking the upper end flange, the motor-rotor portion is positioned substantially in the central portion in the axial direction of the main shaft, on the upper and lower portions of which are disposed radial magnetic cylinders, and magnetic detection type position sensors are incorporated into the inner wall of the drive-portion housing so as to oppose to both the radial magnetic cylinders.

4. (New) The centrifugal extractor of non-contact journaled construction according to claim 2, wherein the drive-portion housing comprises a combination of a cylindrical member having flanges on both upper and lower ends thereof and a disk-like member for blocking the upper end flange, the motor-rotor portion is positioned substantially in the central portion in the axial direction of the main shaft, on the upper and lower portions of which are disposed radial magnetic cylinders, and magnetic detection type position sensors are incorporated into the inner wall of the drive-portion housing so as to oppose to both the radial magnetic cylinders.